

Amendments to the Specification:

Please replace paragraph [0018] with the following amended paragraph [0018]:

[0018] More specifically, in accordance with the present invention, there is provided an adaptive method for predistorting a an RF modulated signal, to be transmitted, supplied by a signal source to an input of a power amplifier having an output for delivering an amplified output signal, said method comprising the steps of:

predistorting the RF modulated signal to be transmitted using an I/Q modulator by means of predistortion amplitude and phase look-up tables interposed between the signal source and the input of the power amplifier, and controlled by means of amplitude and phase look-up tables stored in a distorting generator;

producing, via a first digital receiver, a first feedback signal in response to the RF predistorted signal;

producing, via a second digital receiver, a second feedback signal in response to the RF amplified output signal from the power amplifier;

modeling the power amplifier in response to the first and second feedback signals; and

updating the predistortion amplitude and phase look-up ~~table~~ tables ~~means~~ in response to said modeling of the power amplifier.

Please replace paragraph [0019] with the following amended paragraph [0019]:

[0019] According to a second aspect of the present invention, there is provided an adaptive device for predistorting ~~a~~an RF modulated signal to be transmitted, supplied by a signal source to an input of a power amplifier having an output for delivering an amplified output signal, said adaptive device comprising:

~~a complex gain adjuster~~ an I/Q modulator interposed between the signal source and the input of the power amplifier;

a distorting generator including predistortion amplitude and phase look-up ~~table~~ tables; said distorting generator ~~being so configured as to control~~ controlling said ~~complex gain adjuster~~ I/Q modulator to predistort the RF modulated signal to be transmitted in amplitude and in phase;

a first digital receiver producing a first feedback signal in response to the RF predistorted signal from said ~~complex gain adjuster~~ I/Q modulator;

a second digital receiver producing a second feedback signal in response to the RF amplified output signal from the power amplifier; and

a control module receiving said first and second feedback signals from said first and second digital receivers; said control module being so configured as to model the power amplifier in response to the first and second feedback signals and to update said amplitude and phase look-up ~~table~~ tables of said ~~distortion~~ distorting generator in response to ~~said modeling~~ a dynamic modeling of the power amplifier.

Please replace paragraph [0020] with the following amended paragraph [0020]:

[0020] According to a third aspect of the present invention, there is provided a transmitter system for ~~amplifying and up-converting and amplifying~~ a baseband signal from a signal source; said transmitter system comprising:

a power amplifier having a signal input and an amplified signal output;

an I/Q modulator ~~complex gain adjuster~~ interposed between the baseband signal source and said signal input;

a ~~distorting~~ generator including predistortion amplitude and phase look-up ~~table~~ tables; said ~~distorting generator being so configured as to control said complex gain adjuster~~ controlling said I/Q modulator to predistort the baseband signal in amplitude and in phase;

an up-converter receiving said the predistorted baseband signal; said up-converter being so configured as to supply an up-converted predistorted signal to said signal input of said power amplifier;

~~a first digital receiver producing a first feedback signal in response to the predistorted baseband signal;~~

a ~~second~~ digital receiver producing a ~~second~~ feedback signal in response to the up-converted amplified output signal from said amplified signal output; and

a control module receiving a delayed reference signal from said I/Q modulator and the feedback signal from said digital receiver ~~said first and second feedback signals from said first and second digital receivers~~; said control module being so configured as to

model the transmitter system ~~said power amplifier~~ in response to the reference and feedback signals ~~the first and second feedback signals~~ and to update said amplitude and phase look-up ~~table~~ tables of said distorting generator in response to a dynamic non linearity and memory effect modeling of the transmitter system ~~said modeling of said power amplifier~~.

Please replace paragraph [0021] with the following amended paragraph [0021]:

[0021] According to a final aspect of the present invention, there is provided an adaptive device for predistorting a baseband digital signal to be transmitted, supplied by a signal source to an input of a transmitter system ~~power amplifier~~ having an output for delivering an amplified output signal, comprising:

predistorter means comprising an I/Q modulator controlled by predistortion amplitude and phase look-up ~~table~~ tables means interposed between the signal source and the input of an up-converter ~~the power amplifier~~ for amplitude and phase predistorting the signal to be transmitted;

~~digital receiver means for producing a first feedback signal in response to the predistorted signal from the predistorter means;~~

digital receiver means for producing a ~~second~~ feedback signal in response to the amplified output signal from the transmitter system ~~power amplifier~~; and

means for modeling the transmitter system power amplifier in response to the first and second feedback signals in response to a reference signal and to the feedback signal and to update the amplitude and phase look-up tables in response to a dynamic non-linearity and memory effect modeling of the transmitter system; and

~~means for updating the predistortion amplitude and phase look-up table means in response to said modeling of the power amplifier.~~